PP-087 Investigation of HBV infection rate and virus genotypes of Yao population in Guangdong Ruyuan

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Objective: To explore the infection rate of HBV of Yao population in Ruyuan and the correction between Hepatitis B virus genotypes and clinical disease spectra.
Methods: ELISA was used to detect hepatitis B virus markers of 665 Yao population and 589 Han population. And microboard nucleate molecular hybridization ELISA was used to detect the genotype of 97 cases of different clinical types of HBV infections.
Results: HBsAg positive rate of Yao population (20.3%) was higher than Han population (13.4%), and significance difference was found in males (25.81% vs 13.22%, $P < 0.05$). Among the 97 HBV patients of Yao population, genotype B took up the largest proportion (52.58%, 51/97), followed by genotype C (36.08%, 35/97), and then 7 cases of mixed genotype (4 cases of B/C, 3 cases of C/D). No genotype E or F was detected. Genotype B was higher than genotype C (52.94% vs 25.71%, $p < 0.05$) in asymptomatic carriers, while genotype C was higher than genotype B (62.85% vs 27.45%, $p < 0.05$) in mild or moderate chronic hepatitis B.
Conclusion: HBsAg positive rate of males in Ruyuan of Yao population was higher than that of Han population. Genotype B was the main type in this area, followed by genotype C.

PP-088 Incidence of genotypic resistance to lamivudine long-term therapy in chronic hepatitis B genotype D

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Background: Lamivudine improves patients' outcome but is reported to be associated with increasing rates of viral resistance. The long-term benefit of lamivudine therapy and resistance rate in HBeAg negative genotype D patients is not fully known. The aim of the present study was to assess the incidence of genotypic resistance to lamivudine therapy in patients with chronic hepatitis B due to genotype D.
Methods: This study included 85 patients with chronic hepatitis B due to genotype D, who received lamivudine 100 mg daily for at least 12 months (10 females, age 32±8 years). 73 (85) % were HBeAg negative. Mean follow up period was 25±10 months (33 patients for 12–24 m, 27 for 24–36 m, 20 for 36–48 and 5 for 48–60 m).
Results: HBV-DNA decreased to <2000 IU/ml in 25 patients (21%), and HBV-DNA became undetectable in 42 (35.7%) during the first year of treatment. The rate of relapse with either HBV-DNA reverting to positive or increasing to >2000 IU/ml after initial response was 16% during the first year, 19% during the second year, 3.5% during the third, 1% during the fourth year of follow up. Breakthrough was observed in 66% of the HBeAg positive group and only 35% of the HBeAg negative group. INNO-LiPA was performed for 20 patients. Wild type was found in 14 patients; mixed type in 4 and mutant in two patients. Hence mutations were detected in 30% of the tested lamivudine-treated cases. YMDD was detected in 15%. Mean viral load was 283746 IU/ml compared to 5,673000 IU/ml in the patients with the mutants.
Conclusion: Longterm lamivudine therapy is associated with a high response rate with a rather low relapse rate in HBeAg negative patients with genotype D. The incidence of YMDD mutation is low.

PP-089 Improving blood safety by setting the ambiguous region of screening HBsAg ELISA in Chinese blood donations

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Objective: To evaluate to set ambiguous region of screening HBsAg ELISA results whether improving blood safety by HBsAg confirmatory assay and super-sensitivity screening kits.
Method: The samples, which HBsAg screening results were in ambiguous region, were retested by HBsAg confirmatory assay using hepatitis B immunoglobulin and super-sensitivity screening kits.
Results: The 21 samples were positive tested by HBsAg super-sensitivity screening kits, in which 15 samples were positive confirmed by HBsAg confirmatory assay and other 6 samples were false positive. The average S/CO value of negative samples, which retested by HBsAg super-sensitivity screening kits, was not significance rise compared with other two routine HBsAg screening kits in our laboratory.
Conclusion: Setting ambiguous region of screening HBsAg ELISA in Chinese blood donations improved blood safety and prevented HBsAg screening failure.

PP-090 Hepatitis B, C and D viruses in Tajikistan

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Aim: To study was to investigate the genotypic prevalence and clinical significance of HCV, HBV, and/or HDV among chronic hepatitis patients with and without liver cirrhosis and/or HCC in Tajikistan.
Methods: Sera were obtained from 124 consecutive cases of chronic liver diseases. Patients in this study were classified into two clinical groups: (i) chronic hepatitis and (ii) liver cirrhosis.
Results: Genotypes of HBV, HCV, and HDV were determined by genetic sequencing. The overall prevalence of anti-HCV, HCV core antigen (HCVcAg) and HBsAg was 46% (57/124) and 41.1% (51/124), respectively. Co-infection of HCV/HBV, HBV/HDV, and HCV/HBV/HDV was found in 4.8% (6/124), 11.2% (12/124), and 0.8% (1/124) of cases, respectively. HDV genotype 1 was found in 19.6% (10/51) of HBsAg-positive patients. The HBV/HDV co-infection was relatively high in group 2 compared with group 1 (15% vs. 7.1%). HCV/1b was detected in 84.6% (44/52) of HCV RNA-positive patients, followed by 3a (7.6%), 2a (5.7%), and 2c (1.9%). HBV/D was detected in 94.1% (48/51) of HBsAg-positive patients, followed by HBV/A [5.8% (3/51)]. T1762/A1764 double mutation was associated with liver cirrhosis in HBV-infected patients ($P = 0.0004$).
Conclusion: Among HBV-infected patients, the T1762/A1764 mutation was associated with liver cirrhosis.

PP-091 Protective effect of caffeic acid phenethyl ester on liver injury model in rats

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Objectives: This study aims to evaluate the antioxidative effects of caffeic acid phenethyl ester (CAPE) with various doses, which was given by intraperitoneal injection or oral route, in rats with chronic liver injury induced by carbon tetrachloride (CCl_4), alcohol and high-lipid forage.
Methods: Ninety-five Sprague-Dawley rats were divided randomly into nine groups as follows: blank control, solvent

controls, model group, the drug groups were administrated with Vit E (10 mg/kg, ip.) and CAPE (3 mg/kg, 6 mg/kg, 12 mg/kg, ip. & 12 mg/kg, 24 mg/kg, ig.) daily throughout 10 weeks. At the end of the experiment, GSH, SOD and MDA levels and CAT activity of liver homogenate were quantified. Excised liver tissue was taken to undergo HE and Van Gieson staining.
Results: Data showed decrease in MDA level and increase in GSH, SOD levels, and CAT activity in the CAPE treated groups, compared with model group. There were statistically significant difference between CAPE (12 mg/kg, 6 mg/kg, via ip route) groups and model group ($p < 0.05$), and the other CAPE treated groups were not. What's more, treatment with CAPE attenuated the inflammation and fibroplasias induced by CCl_4, alcohol and high-lipid forage.
In conclusion, CAPE protects against CCl_4, alcohol and high-lipid forage induced oxidative stress, and enhances antioxidant capacity. In addition, intraperitoneal injection is the better way to produce the best pharmacodynamic effects.

PP-092 Clinical impacts of hypoxia inducible factor-1α expression and its gene transcription in HBV-related hepatocellular carcinoma

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Background: The progressing increasing of hypoxia inducible factor-1alpha (HIF-1α) and HIF-1αmRNA were found during the malignant transformation of hepatocytes in our previous work. In this study, the expression of hepatic HIF-1α and level of its gene transcription were investigated in different tissues of human hepatocellular carcinoma (HCC) for exploring the relationship between HIF-1α expression and HCC development.
Methods: The alterations of liver HIF-1α transcription and expression were observed through the self-controlled specimens from 35 human HCC patients. The expression and cellular distribution of hepatic HIF-1α were analyzed by immohistochemistry. The gene fragments of HIF-1αmRNA in different liver tissues were amplified by nested-PCR, and confirmed by sequencing.
Results: The positive HIF-1α was brown and granule-like, mainly presented in cytoplasm and few in nucleus. The incidence of HIF-1α expression was 80% (28/35) in HCC, and 100% (35/35) in their paracancerous tissues, respectively. The specific concentrations of total RNA were 12.4 ± 7.3 μg/mg wet liver in HCC and 53.8 ± 52.0 μg/mg wet liver in their paracancerous tissues ($t = 3.05$, $P < 0.01$). The clinical pathological features of HIF-1α expression demonstrated that no significant correlation was found between HIF-1α and tumor numbers, differentiation degree or positive-HBsAg except of tumor size.
Conclusion: Hepatic HIF-1α expression is associated with development and prognosis of HCC, and should be an attractive molecular-target for HCC therapy.

PP-093 Hepatoma-specific glypican-3: expression in hepatocarcinogenesis, pathological features and clinical diagnostic value

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Background: Hepatocellular carcinoma (HCC) prognosis is poor and early diagnosis is of the utmost importance. The objective of this study was to investigate the dynamic expression of glypican-3 (GPC-3) and its gene in hepatocarcinogenesis, the relationship of its expression with HBV infection, and diagnostic values for HCC.
Methods: The characteristics of GPC-3 expression were observed by rat hepatoma models. Liver GPC-3 Expression was analyzed by immunohisto-chemistry or Western blotting. Hepatic GPC-3 mRNAs were extracted and amplified by using a nested polymerase chain reaction (PCR) or real-time PCR assay. The amplified fragments of GPC-3 gene were confirmed by DNA sequencing. The level of serum GPC-3 in patients with liver diseases was quantitatively detected by an ELISA method.
Results: The dynamic alteration of GPC-3 was confirmed by hepatoma models with brown granule-like staining localized in membrane and cytoplasm in morphological stages of granule-like degeneration, atypical hyperplasia and cancer formation. Of self-control human HCC tissues, the incidence of GPC-3 was 80.6% in HCC, 41.7% in their surrounding, and none in distant group ($\chi^2 = 11.445$, $P < 0.000$) with no significant relationship between GPC-3 and differentiation grade or tumor number except of tumor size ($Z = 2.941$, $P = 0.003$); and the features of circulating GPC-3 was detected in only HCC patients (52.8%) without significant different between GPC-3 and sex, age, AFP, tumor number, Child-pugh classification or extrahepatic metastasis except of size ($\chi^2 = 6.318$, $P = 0.012$) and HBV infection ($\chi^2 = 23.362$, $P < 0.000$). Combined analysis of GPC-3 and AFP levels could rise up to 87% for HCC diagnosis.
Conclusions: Abnormal expression of hepatic and circulating GPC-3 may be associated closely with occurrence of HCC and could be a useful specific molecular marker for HCC diagnosis.

PP-094 The association of serum tissue inhibitor of metalloproteinases-1 with hepatic fibrosis in patients with chronic hepatitis B

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Background: Chronic hepatitis B (CHB) is a severe liver disease and can progressively develop hepatic fibrosis. Notably, high levels of tissue inhibitor of metalloproteinases-1 (TIMP-1) expression are observed in patients with liver fibrosis. However, the potential relationship between the levels of serum TIMP-1, hepatic TIMP-1, and the degrees of hepatic fibrosis in patients with CHB has not yet been illustrated. This study aimed at investigating the relationship between TIMP-1 expression and liver fibrosis severity in patients with CHB.
Methods: In the present study, a total of 159 CHB with varying degrees of liver fibrosis were recruited and subjected to liver biopsy for the analysis of their liver fibrotic stages and inflammatory activities. The levels of TIMP-1 expression in the liver tissues and serum TIMP-1 in those patients were determined by immunohistochemistry and enzyme-linked immunoabsorbent assay (ELISA), respectively.
Results: Our results indicated that the concentrations of serum TIMP were positively correlated with the levels of TIMP-1 expression in the liver tissues ($R = 0.9521$) and the degrees of liver fibrosis (0.704) in CHB patients with inflammation at grade 2. More importantly, the concentrations of serum TIMP-1 were independent of the degrees of inflammation in those patients.
Conclusion: Our findings suggest that the TIMP-1 may be a valuable biomarker, and that the detection of serum TIMP-1 concentrations may be a safe and cost-effective measure for the evaluation of liver fibrosis at least in CHB patients.
Acknowledgements: This work was supported by the Natural Science Foundation of China (No. 30800973), and the